

ABSTRACT

Implants and methods are presented for surgically repairing a hip joint with a proximal femoral prosthesis that comprises femoral head component and a femoral stem component. The femoral stem component comprising a neck portion, a flange portion, a transitional body region and an elongated stem. The femur is prepared for implantation of the femoral hip prosthesis by resecting the proximal femur and reaming a symmetric intramedullary cavity in the femur. The femoral hip prosthesis is then inserted the on the resected femur and in the intramedullary cavity. The femoral hip prosthesis elastically deforms when loaded during use to apply dynamic compressive loads and displacement to the calcar region of the resected proximal femur.